

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): S. Brandon Keller, et al.

Confirmation No.:

Application No.: 10/647,606

Examiner: Not Assigned

Filing Date: Aug. 25, 2003

Group Art Unit:

Title: SYSTEM AND METHOD FOR DETERMINING CONNECTIVITY OF NETS IN A
HIERARCHICAL CIRCUIT DESIGN

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or
(Within three months of filing national application; or date of entry of national application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:
☐ Statement under 37 CFR 1.97(e), or
☐ a \$180.00 fee under 37 CFR 1.17(p), or
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97 (d) together with a:
☐ Statement under 37 CFR 1.97(e)(1) or (2), and
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$0.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **08-2025** pursuant to 37 CFR 1.25.

☒ Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Statement together with any required copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

☐ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individuals(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

"Express Mail" label no. EV210654878US

Date of Deposit Feb. 6, 2004

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

By

Typed Name: Wendy Precht

Respectfully submitted,

S. Brandon Keller, et al.

By

Peter C. Knops

Attorney/Agent for Applicant(s)

Reg. No. 37,659

Date: Feb. 6, 2004

FORM PTO-1449

ATTY. DOCKET NO.

APPLICATION NO.

CONFIRMATION NO.

100111233-1

10/647,606

APPLICANT

S. Brandon Keller, et al.

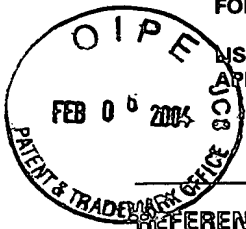
FILING DATE

GROUP

Aug. 25, 2003

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT

(Use several sheets if necessary)



REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A				
	1B				
	1C				
	1D				
	1E				
	1F				
	1G				
	1H				
	1I				
	1J				
	1K				

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	1L					
	1M					
	1N					
	1O					
	1P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

1Q	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,682, Entitled: Method And Program Product For Determining Nets Requiring Detailed Electromigration And Self Heating Analysis In A Digital Integrated Circuit; Filed November 12, 2003
1R	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,698, Entitled: Method And Program Product For Performing Self-Heating Analysis In A Digital Integrated Circuit Through A Single Cycle Transient Simulation; Filed November 12, 2003
1S	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,376, Entitled: Method And Program For Visual Display and One-Click Repair Of Electromigration And Self Heating Design-Rule Violations In A Digital Integrated Circuit Layout Database; Filed November 12, 2003

EXAMINER

DATE CONSIDERED

FORM PTO-1449

FEB 08 2004

ATTY. DOCKET NO.

100111233-1

APPLICATION NO.

10/647,606

CONFIRMATION NO.

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

(Use several sheets if necessary)

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	2A			
	2B			
	2C			
	2D			
	2E			
	2F			
	2G			
	2H			
	2I			
	2J			
	2K			

FOREIGN PATENT DOCUMENTS

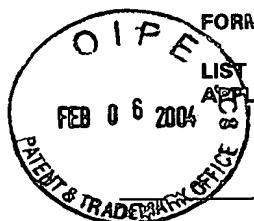
	DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	2L				
	2M				
	2N				
	2O				
	2P				

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

2Q	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,501, Entitled: Method And Program Product For Performing Electromigration Analysis In A Digital Integrated Circuit By Converting A Netlist To A DC Model And Performing DC Analysis Of The DC Model; Filed November 12, 2003
2R	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,526, Entitled: Method And Program Product For Performing A Worst Case Electromigration And Self Heating Analysis In A Digital Integrated Circuit With Worst-Case Superposition Of Partial Currents; Filed November 12, 2003
2S	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,692, Entitled: Method And Program Product For Performing Electromigration Analysis In A Digital Integrated Circuit Through A Single Cycle Transient Simulation; Filed November 12, 2003

EXAMINER

DATE CONSIDERED



FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

100111233-1

APPLICATION NO.

10/647,606

CONFIRMATION NO.

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	3A				
	3B				
	3C				
	3D				
	3E				
	3F				
	3G				
	3H				
	3I				
	3J				
	3K				

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	3L					
	3M					
	3N					
	3O					
	3P					

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

3Q	KELLER, S. Brandon; ROGERS, Dennis R.; LELM, Charles A.; U.S. Patent Application Serial Number 10/706,508, Entitled: Method And Program Product For Performing Self-Heating Analysis In A Digital Integrated Circuit Layout Database by Substituting Resistive Models For Active Devices; Filed November 12, 2003
3R	KELLER, S. Brandon; ROGERS, Dennis R.; ROBBERTS, George H.; U.S. Patent Application filed under EV210655516US; Entitled: Method And Program Product For Determining Worst Case Currents In A Digital Integrated Circuit Through Worst-Case Superposition Of Partial Currents; Docket No.: 200300123-1; Filed January 30, 2004
3S	KELLER, S. Brandon; ROGERS, Dennis R.; ROBBERTS, George H.; U.S. Patent Application filed under EV210655564US; Docket: 200308901-1; Entitled: Systems And Methods For Re-Using Circuit Design Analysis Results; Filed January 30, 2004

EXAMINER

DATE CONSIDERED

FORM PTO-1449

ATTY. DOCKET NO.

100111233-1

APPLICATION NO.

10/647,606

CONFIRMATION NO.

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT

(Use several sheets if necessary)

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	4A			
	4B			
	4C			
	4D			
	4E			
	4F			
	4G			
	4H			
	4I			
	4J			
	4K			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	4L				
	4M				
	4N				
	4O				
	4P				

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

4Q	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655581US; Docket No.: 200308899-1; Entitled: System And Method For Determining Detail Of Analysis In A Circuit Design; Filed January 30, 2004
4R	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655595US; Docket No.: 200308898-1; Entitled: Systems And Methods That Identify Equivalent Instantiation-Specific Configuration Information For Analysis Tools; Filed January 30, 2004
4S	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H. & STEVENS, Scott Alan; U.S. Patent Application filed under EV210655520US; Entitled: System And Method To Limit Analyzed Current Flow In A Circuit Design; Filed January 30, 2004

EXAMINER

DATE CONSIDERED

FORM PTO-1449

ATTY. DOCKET NO.

100111233-1

APPLICATION NO.

10/647,606

CONFIRMATION NO.

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT

(Use several sheets if necessary)

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	5A			
	5B			
	5C			
	5D			
	5E			
	5F			
	5G			
	5H			
	5I			
	5J			
	5K			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	5L				
	5M				
	5N				
	5O				
	5P				

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

5Q	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655533US; Docket: 200310172-1; Entitled: System And Method For Processing Configuration Information; Filed January 30, 2004
5R	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655555US; Docket: 200310170-1; Entitled: System And Method For Balancing Run-Time And Result Accuracy In A Circuit Design Analysis Tool; Filed January 30, 2004
5S	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655578US; Docket: 200308900-1; Entitled: System And Method For Indicating Logic State Combinations Used During Circuit Design Analysis; Filed January 30, 2004

EXAMINER

DATE CONSIDERED

FORM PTO-1449

LIST OF PATENTS AND PUBLICATIONS FOR
APPLICANT'S INFORMATION DISCLOSURE
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.

100111233-1

APPLICATION NO.

10/647,606

CONFIRMATION NO.

APPLICANT

S. Brandon Keller, et al.

FILING DATE

Aug. 25, 2003

GROUP

REFERENCE DESIGNATION

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	6A			
	6B			
	6C			
	6D			
	6E			
	6F			
	6G			
	6H			
	6I			
	6J			
	6K			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	6L				
	6M				
	6N				
	6O				
	6P				

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

6Q	KELLER, S. Brandon; ROGERS, Dennis R.; ROBERTS, George H.; U.S. Patent Application filed under EV210655547US; Docket: 200310171-1; Entitled: System And Method For Determining Control Signal Combinations For Use During Simulation Of A Stage Of A Circuit Design; Filed January 30, 2004
6R	
6S	

EXAMINER

DATE CONSIDERED